No. 05-1056

IN THE

Supreme Court of the United States

MICROSOFT CORPORATION,

Petitioner,

v.

AT&T CORP.,

Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR RESPONDENT

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QUESTIONS PRESENTED

1. Whether digital software code—an intangible sequence of "1's" and "0's"—may be considered a "component[] of a patented invention" within the meaning of 35 U.S.C. § 271(f); and, if so,

2. Whether Microsoft's transmission of such code abroad constitutes the "suppl[y]" of such a component within the meaning of that provision.

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BRIEF FOR RESPONDENT

PRELIMINARY STATEMENT

Section 271(f) of the Patent Act makes it an act of patent infringement to "suppl[y] ... from the United States" either—

> *all or a substantial portion* of the components of a patented invention ... in such manner as to *actively induce* the combination of such components outside the United States in a manner that would infringe the patent if such combination occurred within the United States,

35 U.S.C. § 271(f)(1) (emphasis added), or

> *any component* of a patented invention that is *especially made or especially adapted for use* in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, ... knowing that such component is so made or adapted and *intending* that such component will be

> combined outside the United States in a manner that would infringe the patent if such combination occurred within the United States,

id. § 271(f)(2) (emphasis added). At issue in this case is whether these provisions grant any meaningful protection for inventions practiced through computer software.

During all relevant periods, AT&T held the patent to a sophisticated speech coding and decoding technology. Although AT&T licensed this technology to many companies on reasonable terms, Microsoft wished to exploit AT&T's innovation for free. Microsoft now concedes that it infringed AT&T's patent for years by supplying domestic computer manufacturers with software object code that enabled personal computers in the United States to make use of AT&T's invention. Microsoft also supplied the same object code to *foreign* manufacturers for the same purpose, kept close track of how often they loaded the code onto new computers, and charged them a licensing fee each time they did so. Microsoft nonetheless contends that it may escape liability under Section 271(f) because the code was carried on different physical media to its ultimate destination in foreign computers, and because Microsoft did not supply the medium that carried the code on the last leg of its journey. The district court and court of appeals rejected this argument, held Microsoft liable, and explained that Microsoft's position would strip Section 271(f) of any significance in the software context.

Microsoft sought certiorari on two questions. First, it asked the Court to decide "[w]hether digital software code—an intangible sequence of '1's' and '0's'—may be considered a 'component[] of a patented invention'" within the meaning of Section 271(f). Pet. i (questions presented). Second, Microsoft asked the Court to decide whether, if the answer to that first question is yes, its transmission of the object code abroad constituted the "supply" of such a component. Microsoft rightly gave top billing to the first of these two questions. Whether "an intangible sequence of '1's' and '0's'" (*id.*) can be a "component" of an invention for Section 271(f) pur-

poses is the central issue in this case and logically precedes the "supply" issue.

Microsoft now flips the order of its discussion and addresses the "supply" issue first, but that turns the logical structure of this case on its head. Microsoft's arguments on that issue presuppose that the Court has already accepted Microsoft's dubious claim, deferred to the end of its brief, that intangible object code cannot be a "component" of an invention. When Microsoft finally does address the meaning of "component," it argues for the first time that the very question on which it sought certiorari—whether "an intangible sequence of '1's' and '0's' . . . may be considered a component" (Pet. i.)—is not properly presented after all, because of how Microsoft reads various stipulations in the district court. This is a perplexing argument, because if it had merit and were preserved, certiorari would need to be dismissed as improvidently granted.

If the Court does not dismiss the writ, the answer to the first question presented is straightforward. Microsoft's object code is not just *a* "component," but *the* key component of the foreign-made devices in terms of their ability to practice AT&T's invention. Although that object code must be combined with physical components to form such a device, it is plainly a component of that device, just as a unique collection of intangible words is a component of any book bearing the title *Moby-Dick*, even though those words, too, must be combined with ink and paper before the book can be read. Microsoft would read into Section 271(f) an "*implied* requirement that a 'component' be physical in nature" (Pet. Br. 42 n.14 (emphasis added)), but that position lacks any basis in the statutory text and improperly conflates the physical and non-physical layers of computer technology. And if that position were adopted, it would read Section 271(f) out of the Patent Act for virtually any invention practiced by the use of software, a result Congress did not intend. Finally, Microsoft plainly "supplied" this object code from the United States to foreign computer manufacturers, with the intent that those companies would pay Microsoft a royalty each

time they combined that code with other components to form devices that would infringe AT&T's patent if made or used in the United States.

Microsoft and its allies—including the amicus trade associations that they fund—have long sought to persuade Congress to repeal Section 271(f) altogether. Having so far failed in these legislative efforts, the same alliance urges this Court to strip Section 271(f) of all meaning in the software industry. But the law is the law as it stands today. Under any faithful reading of that law, Microsoft has infringed AT&T's patent and is liable under Section 271(f).

STATEMENT

A. The Physical And Non-Physical Layers Of Computer Technology

At a basic level, computer systems are made up of hardware and software "components." A. Silberschatz, P. Galvin & G. Gagne, *Operating System Concepts* 3 (7th ed. 2005) ("Silberschatz") (stating that the "components" of a computer system include "hardware," "operating system," and "applications programs"). These components are combined to achieve the "fundamental goal of computer systems," which is to "execute user programs and to make solving user problems easier." *Id.* at 5.

The physical parts of a computer are known as "hardware." Today's hardware consists of the physical materials inside the "box"—such as the central processing unit ("CPU"), memory cards, hard drives, and circuitry—and external physical parts such as the video monitor, keyboard, mouse, printer, cabling, and removable devices for storing information, such as compact disks ("CDs"), floppy disks, and magnetic tapes. *See, e.g., Response of Carolina, Inc.* v. *Leasco Response, Inc.*, 537 F.2d 1307, 1326 (5th Cir. 1976).

Computer hardware is not useful unless "programmed" to perform a particular function. A program directs a computer's CPU to open or close numerous electrical switches at particular times, thereby creating electrical signals that cause the various hardware elements to perform desired

tasks. *See, e.g.*, R. White, *How Computers Work* 53 (8th ed. 2006).

In modern computing technology, the hardware is programmed by software in the form of *object code*. Object code—also called "machine language"—is expressed as a precise sequence of binary digits (1s and 0s) that turn particular switches within a computer's microchip circuitry "on" and "off." White, *supra*, at 87.[1] The same object code can be stored or transported in any of a number of different physical containers. For example, the same sequence of 1s and 0s can be represented in the arrangements of indentations ("pits") and unindented spaces ("lands") on the surface of a plastic CD; in rapid bursts of light within a fiber-optic cable; or in the orientations of magnetic fields on a computer's hard drive. But regardless of where a program is stored, it can be executed by a CPU only once the 1s and 0s have been transferred from their storage location to a computer's random-access memory, or "RAM," where they are represented as patterns of electrical charges on a RAM chip. *See id.* at 49.

Today's software technology is highly "modular," which means that software engineers can develop and market their products for use on many different types of computer hardware and in conjunction with many other types of software. Software is thus routinely referred to as a "component" of a larger computer system,[2] and software engineers work on such components without needing to worry about the physi-

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[1] Human programmers normally write software not as object code, but in one of several programming languages such as C++, BASIC, or FORTRAN. Software in that format is known as "source code" and must first be translated into object code through a process called "compiling" in order to function successfully on a computer. *See, e.g.*, White, *supra*, at 94.

[2] *See, e.g.*, Silberschatz, *supra*, at 3; *see also, e.g.*, R. Pressman, *Software Engineering: A Practitioner's Approach* 125 (6th ed. 2005) ("In the software context, a component could be a computer program, a reusable program component, a module, a class or object, or even a programming language statement."); C. Szyperski, *Component Software: Beyond Object-Oriented Programming* 10 (2d ed. 2002) ("The distinguishing properties of software are of a mathematical rather than a physical nature.").

cal details of how the code they write will be expressed on any particular machine. Such modularity allows the software industry to achieve enormous efficiency and flexibility by "breaking up a complex system into discrete pieces—which can then communicate with one another only through standardized interfaces within a standardized architecture—[to] eliminate what would otherwise be an unmanageable spaghetti tangle of systemic interconnections." R. Langlois, *Modularity in Technology and Organization*, 49 J. Econ. Behav. & Org. 19, 19 (2002).

Computer scientists thus describe a modern computer system as consisting of several different "layers" of modular technology. *See* Silberschatz, *supra*, at 72. The bottommost layer consists of a computer system's physical hardware, such as the CPU and RAM, as well as the other physical devices used to store and transmit data. The higher layers consist of software code. "Each layer is implemented with only those operations provided by lower-level layers. A layer does not need to know how these operations are implemented; it needs to know only what these operations do. Hence, each layer hides the existence of certain data structures, operations, and hardware from higher-level layers." *Id.* at 60.[3]

The layered nature of software and hardware is immensely important to the structure of the computer market-

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[3] *See, e.g., ISC-Bunker Ramo Corp.* v. *Altech, Inc.*, 765 F. Supp. 1310, 1318 (N.D. Ill. 1990) ("Software is commonly developed to be used in layers."). Microsoft's Windows software is itself divided into various layers. For example, Microsoft's Windows XP system is built on a "hardware-abstraction layer" or HAL, which "manipulates hardware directly, isolating the rest of Windows XP from hardware differences among the platforms on which it runs." Silberschatz, *supra*, at 787. This lower layer in the operating system enables Windows to be "moved from one hardware architecture to another with relatively few changes" (a feature known as "portability"). *Id.* Windows also includes a large number of higher-layer "applications" programs, such as a calculator, clock, Internet browser, and—particularly relevant here—voice-manipulation programs such as NetMeeting and Sound Recorder, which enable the practice of AT&T's patented technology. J.A. 16-17.

place. Software developers such as Microsoft need not also build computers on which to run their programs, and computer firms like IBM or Dell need not develop software tailored to their specific systems. Instead, as long as certain compatibility standards are met, software object code can be developed and run on different manufacturers' computer systems. While both object code and hardware are needed for a computer to function properly, they may be—and frequently are—developed, advertised, and purchased separately. *See* Silberschatz, *supra*, at 836 ("[U]sers can choose and upgrade hardware to match their budgets and performance requirements without needing to alter the applications they run."). Accordingly, software developers and consumers understand that a particular piece of software—such as Windows, WordPerfect, or TurboTax—refers to a particular program, regardless of whether the program's object code is burned onto on a compact disk, saved on the magnetic platters of a computer's hard drive, transmitted over a fiber-optic cable, or executed on a RAM chip.

B. AT&T's Invention

In 1981, two scientists at Bell Laboratories (then part of AT&T), Dr. Bishnu Atal and Mr. Joel Remde, filed a successful application for a patent on a pioneering advance in digital speech compression. Modern telecommunications systems generally transmit speech by converting it into digital data or "code"; the code is transmitted to its destination, where it is then "decoded" back into a speech signal. Dr. Atal and Mr. Remde invented a novel technique that greatly enhanced the quality of the speech signal heard at the destination while decreasing the amount of data that needed to be transmitted. This invention—disclosed and claimed in U.S. Reissue Patent 32,580 ("the '580 patent"), which AT&T held until it expired in 2001—is widely recognized as a landmark in telecommunications technology and has won many prestigious awards. Ct. App. J.A. 509-510.

As relevant here, the '580 patent claims an apparatus comprising means for generating coded speech signals from audible voice sounds and for receiving those coded signals

and converting them back into audible voice sounds. Supp. J.A. 18-19 ('580 patent, cls. 29, 40-41).[4] From the outset, Dr. Atal and Mr. Remde recognized that the invention would be practiced by writing software that, when installed on a computer, would enable the computer to code and decode speech signals in the disclosed manner. Indeed, Dr. Atal wrote such software himself and appended excerpts of the source code to the '580 patent. *Id.* at 12-16.

In 1996, the International Telecommunications Union, an organization responsible for the promulgation of international standards for the telecommunications industry, recommended this speech compression technique as an industry standard. Many companies—including cellular telephone manufacturers, software developers, videoconferencing providers, and Internet companies whose products involved speech transmission—licensed the technology from AT&T to ensure that their products were compatible with the recommended standard. As Microsoft notes (Br. 3), AT&T's technology, discovered over 25 years ago, is still widely used today "in mobile phones and personal computers to achieve high-quality reproduction of digitally recorded speech."

C. Microsoft's Acknowledged Infringement Of AT&T's Patent

Microsoft, a U.S.-based software developer, has long used AT&T's speech-compression technique by including in its Windows operating system certain object code that, once installed on a compatible computer and loaded into RAM, enables the computer to perform the coding and decoding ("codec") functions claimed in the '580 patent. Microsoft develops, tests, and debugs its Windows software, including speech codecs, in the United States. Pet. App. 22a. Microsoft then markets the finished software product in the United States and abroad, where it is pre-installed on com-

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[4] AT&T also asserted that Microsoft infringed two other claims covering *methods* for coding and decoding speech. *Id.* at 16, 19 ('580 Patent cls. 2, 42).

puters manufactured by other companies and also sold as separately packaged software. Microsoft collects a license fee for every computer sold abroad that contains its Windows software. *See Microsoft Corp.* v. *Commissioner*, 311 F. 3d 1178, 1181 (9th Cir. 2002).

Microsoft refused to license AT&T's patented technology despite repeated requests (J.A. 17), and in 2001 AT&T sued Microsoft for patent infringement. AT&T asserted several bases of infringement, two of which Microsoft conceded after AT&T presented its case-in-chief to the jury. First, Microsoft stipulated that it directly infringed AT&T's patent under Section 271(a)[5] by making infringing devices in the United States: namely, by installing the Windows object code on its own computers during the process of developing, testing, and debugging the software. Pet. App. 42a; Pet. Br. 4 n.1. Second, Microsoft stipulated to liability under Section 271(b)[6] for actively inducing other parties to infringe AT&T's patent—specifically, by sending the Windows object code to U.S. computer manufacturers (also called original equipment manufacturers or "OEMs") with the specific intent that they install Windows on their computers and thereby make devices that infringe AT&T's patent. Pet. App. 42a; Pet. Br. 4.

At issue here is Microsoft's liability for its provision of the Windows object code to computer manufacturers *outside* the United States. Microsoft provides that object code to foreign manufacturers from the United States in the same manner as it provides the code to U.S.-based manufacturers: by sending it on a CD known as a "golden master disk" or in an encrypted electronic transmission directly to the manufacturer. Pet. App. 23a, 45a ¶¶ 4-5, 7 (stipulation). The code is then transferred onto the hard drives of foreign-

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[5] "[W]hoever without authority makes . . . any patented invention, within the United States . . . , infringes the patent." 35 U.S.C. § 271(a).

[6] "Whoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. § 271(b).

manufactured computers, which are sold in foreign countries as computers containing Microsoft's Windows operating system. *Id.* at 45a.[7] Microsoft stipulated that it specifically intends that the object code it sends will be installed into those computers. *Id.* at 46a ¶ 9. It is undisputed that, if performed in the United States, the assembly and use of the computers containing that object code would infringe AT&T's patent.

AT&T claimed that, through this scheme, Microsoft supplied a "component" of a patented invention from the United States in a manner that infringed AT&T's patent under 35 U.S.C. § 271(f)(1) and (2). Microsoft moved for summary judgment, arguing that software cannot be a "component" under the statute because it is "intangible." Pet. App. 24a. In its reply brief in the district court, Microsoft raised the additional argument that the Windows object code incorporated into the foreign-manufactured computers had not been "supplied from" the United States because the code was replicated abroad before installation. *Id.* at 24a-25a.

D. The District Court Judgment

The United States District Court for the Southern District of New York rejected Microsoft's argument that the Windows object code cannot be a "component" under Section 271(f). The court recognized that "[t]he object code or software that is contained on each golden master disk or transmitted electronically, as opposed to the golden master disk or method of encrypted transmission itself, is at the heart of the parties' dispute." Pet. App. 29a. The court also noted that, despite Microsoft's argument that software code is "intangible," it is nonetheless a component of a patentable apparatus when used "'in conjunction with a physical structure such as a computer memory.'" *Id.* at 30a-31a (quoting

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[7] Microsoft also delivered its object code to foreign companies called "replicators," which transferred the Windows object code exactly as it was supplied from the United States to other storage media for sale or delivery to customers. Pet. App. 23a, 45a ¶ 6.

United States Patent & Trademark Office, *Manual of Patent Examining Procedure* ("*MPEP*") § 2106, at 2100-13 (8th ed. 2003)). Moreover, the court added, neither the statutory text nor the legislative history supports limiting the term "component" to physical machines or structures, nor did Congress ever suggest that it meant to exclude software components from Section 271(f). *Id.* at 31a. The court also noted that object code is actually "incorporated into the end-product" and therefore rejected Microsoft's claim that object code should be treated as design information, assembly instructions, or data generated from a patented process. *Id.* at 34a.

The district court further held that Microsoft "supplied" the Windows object code from the United States. Pet. App. 35a. Microsoft's contrary argument, the court explained, ignored the undisputed fact that "the object code is originally manufactured in the United States." *Id.* The court also deemed it significant that Microsoft itself had "acknowledged that if individual disks with the infringing Windows object code were sent abroad for incorporation into each foreign-assembled computer (rather than one golden master disk), Microsoft would be liable for infringement under Section 271(f)." *Id.* at 36a n.7. The Court found that there was no basis under "the letter and intent of the statute" to distinguish between that situation and this case. *Id.* at 35a-36a.

Based on these conclusions, Microsoft stipulated to a judgment of infringement and entered into a settlement agreement with AT&T. Pet. App. 42a-43a. That agreement preserves Microsoft's right to appeal the district court's decision regarding Section 271(f), and prescribes different dollar amounts that Microsoft must pay AT&T depending on the outcome of the appeal.

E. The Court Of Appeals Judgment

The court of appeals affirmed. At the outset, it noted that the first question presented—"whether software may be a 'component' of a patented invention under § 271(f)"—had been answered in *Eolas Technologies Inc.* v. *Microsoft*

Corp., 399 F.3d 1325 (Fed. Cir.), *cert. denied*, 126 S. Ct. 568 (2005), in which the court had held that Section 271(f) is not limited to "patented 'machines' or patented 'physical structures.'" Pet. App. 4a (quoting 399 F.3d at 1339).

With respect to the second question—whether the Windows object code in the foreign-made computers had been "supplied" from the United States—the court of appeals sought to discern the "ordinary, contemporary, common meaning" of the word "supply" in the context of software distribution. Pet. App. 6a (quoting *Williams* v. *Taylor*, 529 U.S. 420, 431 (2000)). Like the district court, the court of appeals rejected Microsoft's argument that Section 271(f) liability could attach where "each disk . . . is shipped and incorporated into a foreign-assembled computer," yet not where a single disk was sent with the intent that the object code it contained be replicated and incorporated into each computer, thereby "saving material, shipping, and storage costs." *Id.* at 7a. The court of appeals also rejected Microsoft's analogy to design instructions, since the Windows object code was shipped "ready for installation on a computer to form an infringing apparatus" and did not constitute "instructions to foreign software engineers for designing and coding Windows." *Id.* at 8a.

Judge Rader dissented. Although he agreed that software was a "component" under Section 271(f) (Pet. App. 11a) and recognized that the remaining question was whether "intangible software components" were supplied from the United States (*id.* at 13a), he argued that liability should not attach because "the master disk" was not itself incorporated into the foreign-made computers (*id.* at 16a). Judge Rader did not explain the apparent discrepancy between his initial finding that intangible software could be a "component" and his later assumption that the "component" in this case was a physical master disk. Judge Rader also believed that imposing liability on Microsoft in this case improperly gave "extraterritorial effect to U.S. patent laws" (*id.* at 17a), even though Microsoft was held liable solely for actions it took within the United States.

SUMMARY OF ARGUMENT

1. This case turns on the answer to the first question presented in Microsoft's petition for certiorari: "[w]hether digital software code—an intangible sequence of '1's' and '0's'—may be considered a 'component[] of a patented invention' within the meaning of Section 271(f)(1)." Pet. i (questions presented). Having persuaded this Court to review that question of general application, Microsoft now advances an interpretation of the record that, in its view, precludes the Court from resolving the question. It is unclear what Microsoft hopes to achieve by this tactic. If its argument on this point were both preserved and meritorious (it is neither), the proper course would be not to rule for Microsoft, but to dismiss the writ of certiorari as improvidently granted.

If the Court does not dismiss the writ, the first question presented in the petition should be answered in the affirmative. The term "component" refers to any part of a larger system, whether tangible or intangible, and object code is plainly a component of any computer system that practices AT&T's invention. Indeed, computer scientists routinely speak of software "components" that are independent of any particular physical-layer medium that may be used to store or transmit those components at any given moment. Of course, object code must be combined with physical-layer components to create a patentable machine, but that does not make it any less a component in its own right. Microsoft's contrary argument both ignores the plain meaning of the term "component" and collapses the distinction, central to the computer industry, between higher (code) and lower (hardware) layers of computer technology.

2. An affirmative answer to the first question presented compels an affirmative answer to the second question: whether Microsoft "supplie[d]" object code for combination with physical-layer components abroad to produce devices that, if assembled in the United States, would directly infringe AT&T's patent. That is exactly what Microsoft did. Microsoft's contrary view assumes the correctness of its ar-

gument on the first question presented (addressed second in Microsoft's brief) that the relevant "component" is the *physical medium containing* the object code, not the code itself, which remains the same regardless of how it is physically embodied at any given moment. Microsoft's assumption is false for the reasons discussed.

Nor is there merit to Microsoft's argument that, because Congress's enactment of Section 271(f) was prompted by this Court's decision in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972), the provision should apply only in cases where, as in *Deepsouth* itself, a U.S. firm ships physical components for assembly abroad. If Congress had meant to confine Section 271(f) to *physical* components, it would have said so in the text. And because that provision indisputably applies in contexts far removed from the facts of *Deepsouth*, it would be nonsensical to rely on those facts as a basis for reading artificial limitations into the statutory language.

3. Microsoft's appeal to principles of "technological neutrality" is highly ironic, because those principles cut strongly against Microsoft's position. If, as Microsoft argues, only physical items containing object code can qualify as "components," Section 271(f) would have vanishingly narrow application to the software industry. For example, as Microsoft now appears to acknowledge, its position would insulate it from liability even if it directly sent an individual CD containing the relevant object code for each foreign-made computer, because end users normally transfer such code from the pits and lands of the CD to magnetic properties on each computer's hard drive. Microsoft cannot seriously deny that its position would amount to a near-total repeal of Section 271(f) for the software industry—an outcome Microsoft has doggedly (but so far unsuccessfully) pursued in Congress. Under current law, however, Microsoft's position is a most implausible reading of this statute, as even Microsoft concedes that Congress had no intent to treat the software industry differently from any other industry.

Microsoft's separate invocation of the presumption against extraterritoriality is untenable in several respects. First, the presumption is simply inapposite here, because Section 271(f) renders Microsoft liable not for "extraterritorial" conduct, but for domestic conduct: shipping software object code from the United States with the requisite intent. Second, the presumption cannot supersede statutory text that speaks directly to a provision's geographic scope, as Section 271(f) does. Third, it would be particularly inappropriate to apply a judicial presumption to narrow the scope of a statute that Congress enacted for the sole purpose of *overcoming* the judicial application of *that very presumption* in a prior case. Fourth, it would make no policy sense to apply that presumption here, as there is no basis for concern about any actual conflict with the prerogatives of any foreign sovereign.

Finally, Microsoft's other policy arguments quarrel not with the application of Section 271(f) in this context, but with Congress's decision to enact that provision in the first place. Congress considered and rejected the arguments that foreign patent protections are sufficient to protect U.S. inventors and that enactment of Section 271(f) would create undue incentives for certain types of businesses to move their operations offshore. Congress, not this Court, should perform any fine-tuning of that policy judgment.

ARGUMENT

This case presents two questions: first, whether intangible object code can constitute a "component" of a patented invention for purposes of Section 271(f); and second, whether Microsoft "supplied" such a component from the United States to its foreign business partners. These two questions should be asked and answered in that logical order. It is impossible to determine whether Microsoft "supplied" the relevant "component" from the United States without first deciding what the relevant "component" is—which, as the Solicitor General observes, is the "logically antecedent" question of the two (U.S. Cert. Br. 19).

Perhaps recognizing that the case turns on identifying the "component" at issue—and that its position on that question is weak—Microsoft inverts the questions presented and assumes throughout Part I of its brief that the Court has already agreed with Microsoft that a Section 271(f) "component" must be a particular physical thing embodying object code, rather than the object code itself. Because that approach begs the primary question in this case, we address the questions in the order in which they are presented in Microsoft's petition.

I. INTANGIBLE OBJECT CODE IS A "COMPONENT" OF A PATENTED INVENTION

A. If Microsoft Is Correct That The First Question Presented In The Petition Is Not Properly Before The Court, Certiorari Should Be Dismissed As Improvidently Granted

In its petition for certiorari, Microsoft invited this Court to review an issue of general application: "[w]hether digital software code—*an intangible sequence of '1's' and '0's'*—may be considered a 'component[] of a patented invention' within the meaning of Section 271(f)(1)." Pet. i (emphasis added). That is the precise issue addressed by both lower courts, which likewise conceptualized the disputed "component" as the intangible "object code contained on the golden master disks," not as the golden master disks themselves. Pet. App. 24a (district court); *see also id.* 4a (court of appeals holding that Section 271(f) is not limited to "'physical structures'" (quoting *Eolas Technologies Inc.* v. *Microsoft Corp.*, 399 F.3d 1325, 1339 (Fed. Cir.), *cert. denied*, 126 S. Ct. 568 (2005)).[8] As the district court confirmed, "the heart of the parties' dispute" has always involved "[t]he object code or software that is contained on each golden master disk or transmitted electronically, as opposed to the golden master disk or method of encrypted transmission itself." *Id.* at 29a.

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[8] *See also* Pet. App. 13a (Rader, J., dissenting) (noting that this case involves "intangible software components").

Having obtained certiorari, Microsoft now argues that this case does not present the first question after all. It contends that the parties stipulated that "the 'components' in issue were the golden master disks and the encrypted transmissions," not the intangible object code that they transmitted, and that the lower courts should have decided the case on that basis. Pet. Br. 10, 34-35. This is a bizarre gambit. If this argument were correct and preserved, "the record [would] not fairly present" the question of general application on which Microsoft sought certiorari, *Rogers* v. *United States*, 522 U.S. 252, 259 (1998), and the appropriate course would be to dismiss the writ as improvidently granted. *See id.*; Stern & Gressman, *Supreme Court Practice* 329 (8th ed. 2002) (citing cases). This Court did not grant certiorari to correct the lower courts' supposed misunderstanding of a case-specific stipulation of facts.

If, however, the Court elects to decide this case on the merits, Microsoft's argument about that stipulation is neither preserved nor correct. First, Microsoft waived this new argument by failing to present it either to the court of appeals or in its petition for certiorari. Before the court of appeals, Microsoft challenged the district court's conclusion that "the intangible Windows object code, as distinct from a golden master *disk* or other software *media* upon which the software information may be stored, was a *component* of the patented computer systems supplied from the United States." Microsoft Ct. App. Br. 8. And Microsoft never gave this Court any inkling at the certiorari stage that it would later try to sabotage the Court's consideration of what Microsoft called a "recurring question of vital importance." Pet. 11.

This Court's rules admonish even a *respondent*, in *opposing* certiorari, that "[a]ny objection to consideration of a question presented based on what occurred in the proceedings below, if the objection does not go to jurisdiction, may be deemed waived unless called to the Court's attention in the brief in opposition." S. Ct. Rule 15.2. *A fortiori*, a petitioner may not pull the rug out from under this Court's con-

sideration of an issue after persuading this Court that the issue has broad general significance and that the case presents a sound vehicle for resolving it.[9]

Second, Microsoft's interpretation of the stipulation is without merit. The stipulation states: "AT&T alleges, and Microsoft disputes, that the computer systems assembled abroad *with the foreign replicated object code* contain 'components' that were supplied by Microsoft from the United States." Pet. App. 46a (emphasis added). The statement on which Microsoft fastens—that Microsoft did not supply a component "other than the 'golden master disks' and the encrypted transmissions *of Windows object code*," *id.* at 47a (emphasis added)—merely focused the analysis on the "Windows object code" as transmitted via the golden master disks and electronic transmissions. It does not state, as Microsoft now contends (Br. 34), that the "[p]hysical [m]edia" are the only "components" at issue in this case. The district court confirmed AT&T's understanding of the stipulation in its final judgment (to which Microsoft also stipulated), holding that "the golden master disks and the encrypted transmissions of Windows object code *contain* 'components' supplied from the United States by Microsoft" and that "the computer systems assembled abroad *with the foreign-*

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[9] Against this backdrop, it is the height of irony for Microsoft to accuse AT&T of engaging in a "duck-and-dodge tactic" by discussing the question on which certiorari has now been granted (Pet. Br. 34). Remarkably, Microsoft chides AT&T for including in its final certiorari-stage brief a description of the first question presented that is taken directly from *Microsoft's own petition* and the Solicitor General's brief in support of certiorari. *Compare* Pet. Br. 33 (criticizing AT&T for characterizing the first question presented as whether "'intangible 1s and 0s,' a binary sequence of numbers that 'lacks physical existence,'" can qualify as a "component" (quoting AT&T Second Supp. Br. 1, 4)) *with* Pet. i (characterizing question presented as whether "an intangible sequence of '1's' and '0's' ... may be considered a 'component'") *and* U.S. Cert. Br. 8-9 (addressing Microsoft's argument that "software cannot be a 'component' of a patented invention because it is 'intangible information'" and because "the concept of the Windows software lacks physical existence" (quoting Pet. 15-17)).

replicated Windows object code that was installed from the golden master disks or the encrypted transmissions *contain* 'components' that were supplied by Microsoft from the United States." Pet. App. 42a ¶ 4 (emphasis added).

B. Section 271(f) Encompasses All "Components" Of An Invention, Including Intangible Components Such As Object Code

1. The term "component" encompasses both physical and non-physical parts of a system

The Windows object code consists of many types of programs, some of which enable a general-purpose computer to practice AT&T's invention. Microsoft has stipulated that it directly infringed AT&T's patent under Section 271(a) by making and using infringing computer devices in the United States while developing, testing, and debugging the Windows code on Microsoft-owned computers. *See* Pet. App. 42a; Pet. Br. 4 n.1. And Microsoft also stipulated that it unlawfully induced the infringement of AT&T's patent under Section 271(b) by sending the Windows object code to U.S. computer manufacturers for inclusion in computers sold in the United States, in essentially the same way that it sent the same code to foreign manufacturers for inclusion on computers abroad. *See* Pet. App. 42a; Pet. Br. 4.

The primary question in this case is whether that object code is a "component" of the foreign-made computers that practice AT&T's patented technology, such that Microsoft's transmissions of the object code to foreign manufacturers infringed AT&T's patent under Section 271(f). Under any plain-language interpretation of that term, the answer is yes.

"Component" means "a constituent part" or "ingredient." *Webster's Third New International Dictionary* 466 (1981) ("*Webster's Third Int'l*"). The term broadly encompasses not just the physical, but also the non-physical, parts of a composite system or device. *See id.* (citing, as example of usage, "the essential [components] of Kantian philosophy"); *see also* J.A. 34 (*Microsoft Computer Dictionary* 116

(5th ed. 2002)) (defining "component" as a "discrete part of a larger system or structure").

Accordingly, the word "component" is routinely used to describe software independent of any physical format, whether as part of a computer system consisting of both hardware and software or as part of a larger non-physical software program.[10] Microsoft itself uses the term that way in its own publications and patents.[11] The U.S. Patent and Trademark Office's Manual of Patent Examining Procedure

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[10] *See, e.g.*, Silberschatz, *supra*, at 3 (including among the "components" of a computer system "the *hardware*, the *operating system*, [and] the *application programs*" (emphasis in original)); J. Peterson & A. Silberschatz, *Operating System Concepts* 1 (1983) (same use of "components"); Pressman, *supra*, at 125 ("In the software context, a component could be a computer program, a reusable program component, a module, a class or object, or even a programming language statement."). Indeed, an entire academic literature has arisen to explore how software engineers design "component software" for use and reuse within larger software systems—a discipline that refutes Microsoft's effort to limit the word "component" to "physical" material (Br. 42 n.14). *See, e.g.*, Pressman, *supra*, at 7 ("A software component should be designed and implemented so that it can be reused in many different programs."); *id.* at 815-816 (defining the process of "component-based software engineering" as "the design and construction of computer-based systems using reusable software 'components'").

[11] *See, e.g.*, J.A. 34 (*Microsoft Computer Dictionary* 116 (5th ed. 2002)) (defining "component" as a "[a]n individual modular software routine that has been compiled and dynamically linked, and is ready to use with other components or programs"); J.A. 29 (Microsoft Windows preinstallation guide) (describing as "Additional components" any "hardware, drivers, *applications, and so on* that you want to preinstall" (emphasis added)). One of Microsoft's patents reproduces a fragment of source code that it describes as having "three main components," the functions of which are described without reference to any particular physical medium. Supp. J.A. 62-63 (U.S. Patent No. 6,738,773, col. 6 l. 58 to col. 7, l. 41). Other Microsoft patents likewise refer to software components regardless of any particular physical embodiment. *See, e.g., id.* at 29 (U.S. Patent No. 6,725,262, col. 5, ll. 23-28) (referring to "executable software components" that "reside at various times in different storage components of the computer"); *id.* at 50 (U.S. Patent No. 6,727,917, col. 3, ll. 11-14) (stating that "input/output components" include "software").

employs the same usage,[12] as do numerous judicial decisions.[13] Several of Microsoft's own amici thus concede that Microsoft is wrong on the first question presented and that intangible software indeed qualifies as a "component" for purposes of Section 271(f). *See, e.g.*, American Intellectual Property Law Ass'n Br. 4-11; Houston Intellectual Property Law Ass'n Br. 6-8; Intellectual Property Professors Br. 1; Professor Edward Lee Br. 3 n.4.[14]

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[12] *See, e.g.*, *MPEP* § 2106.01 at 2100-17 (8th ed., 5th rev., 2006) (discussing "data structures and computer programs which impart functionality when employed as a computer component"); *id.* § 2106.01, at 2100-18 (referring to "computer software and hardware components"); *id.* § 2161.01, at 2100-163 (referring to patent applications that claim elements that are "partially comprised of a computer software component"); *id.* § 2164.06(c), at 2100-198 (referring to computer systems "which include a computer as well as other system hardware and/or software components").

[13] *See, e.g.*, *Globetrotter Software, Inc.* v. *Elan Computer Group, Inc.*, 362 F.3d 1367, 1370 (Fed. Cir. 2004) (stating that license agreements may "prevent the software purchaser from using different components of a suite of programs on different computers simultaneously"); *United States* v. *Microsoft Corp.*, 253 F.3d 34, 93 (D.C. Cir. 2001) ("A justification for bundling a component of software may not be one for bundling the entire software package . . . ."); *Addamax Corp.* v. *Open Software Found., Inc.*, 152 F.3d 48, 49 (1st Cir. 1998) ("[S]ecurity software is a component that can be used with the operating system to restrict outside access to sensitive information."); *Response of Carolina, Inc.* v. *Leasco Response, Inc.*, 537 F.3d 1307, 1326 (5th Cir. 1976) (stating that a computer system can be "broken into three components: the computer hardware, the operating system (systems software) and the applications programs (application software)"); *Wireless Agents, L.L.C.* v. *Sony Ericsson Mobile Communs. AB*, No. 3:05-CV-0289-D, 2006 WL 2239112, at *2 (N.D. Tex. Aug. 4, 2006) (discussing patent infringement "by devices that use non-physical components, e.g. software").

[14] The Solicitor General (Br. 10) supports the court of appeals' conclusion that "software can be a component of a patented invention," but then claims that the "component" at issue is the "physical copy of the software installed on a particular computer." But the court of appeals expressly rejected Microsoft's argument that components must be "physical," as the Solicitor General himself acknowledges. *See* Pet. App. 4a (stating that "components" are not limited to "'physical structures'" (quoting *Eolas*, 399 F.3d at 1339)); U.S. Br. 6 (quoting the same language). The

Microsoft nonetheless continues to advocate what it candidly describes as an "*implied* requirement that a 'component' be physical in nature." Pet. Br. 42 n.14 (emphasis added). But that "implied" limitation would contradict the plain text of the statute. If Congress had so intended, it could have confined Section 271(f) to the supply of "tangible" components of an invention, as Microsoft prefers (Pet. i), or "physical" components, as the Solicitor General prefers (Br. 13), or "elements" of a patent claim, as *amicus* Eli Lilly prefers (Br. 12). Congress certainly knew how to limit patent-law provisions in those respects, having framed other sections of the Patent Act by reference to claim elements or physical matter.[15] But Congress chose not to impose such limitations on the scope of Section 271(f), and for good reason. Intangible "code ... is not only *a* component," but "*the key* part" of virtually any invention practiced through software. *Eolas*, 399 F.3d at 1339 (emphasis added). Without the object code, the foreign-made computers would be collections of useless hardware; they certainly would not be able to perform the complex task of coding and decoding speech signals. *See, e.g.*, Pressman, *supra*, at 2 (software "delivers the computing potential embodied by computer hardware").

Indeed, as discussed in Point III.A below, if object code as such did *not* qualify as a "component" of such products, Section 271(f) would have no meaningful application to the software industry. Congress did not intend that result. Software was central to many patentable inventions when

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Solicitor General nowhere explains why the relevant "component" should be limited to a "physical copy" when the court of appeals—which the Solicitor General contends answered the first question presented "correctly" (U.S. Br. 7)—held to the contrary.

[15] *See, e.g.*, 35 U.S.C. § 101 (providing for patenting of a "machine, manufacture, or composition of matter"); *id.* § 112 ¶ 6 (referring to an "element" of a patent claim, as well as "structure" and "material"); *id.* § 287(a) (providing for marking of "any patented article" by "fixing thereon the word 'patent'"); *id.* § 292(a) (prohibiting "mark[ing] upon, or affix[ing] to, ... any unpatented article" the word "patent").

Congress enacted Section 271(f) in 1984.[16] And as Microsoft itself agrees, "there is no indication that Congress meant to treat software any differently" from other technology for purposes of Section 271(f). Pet. Br. 8-9 (internal quotation marks and ellipsis omitted).[17]

2. Object code is an essential component of software technology even though it must be combined with physical components to function

Microsoft contends (Br. 38) that object code itself, apart from any physical manifestation, cannot be a "component" because it is not "readable and executable by a computer" in that state. That is a non sequitur. Of course object code must be *combined* with a physical component—such as a CD, hard drive, or memory chip—before it can be transmitted or used. But in that sense it is no different from any other component addressed by Section 271(f), which may have no utility on its own but yields a novel and useful device when

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[16] *See, e.g.*, *Diamond* v. *Diehr*, 450 U.S. 175, 187 (1981) (holding that a device using a computer program may be patentable); *In re Comstock*, 481 F.2d 905, 909-910 (C.C.P.A. 1973) (same); R. Pressman, *Software Engineering: A Practitioner's Guide* 1 (2d ed. 1987) (noting that *Business Week* article entitled *Software: The New Driving Force*, published on February 23, 1984, appeared "about ten years too late," given that "software has surpassed hardware as the key element to the success of many businesses, products, and systems" and "is often the key factor that *differentiates*"). Indeed, the original patent application for AT&T's technology was filed in 1981, and the patent issued in 1984.

[17] Microsoft's reliance on Section 271(g) for its contrary interpretation of Section 271(f) (Br. 42 n.14) is meritless. Section 271(g) bases infringement liability not on the shipment of a component, but on the importation of "a product which is made" by a U.S.-patented process. 35 U.S.C. § 271(g) (emphasis added). Although the words "product" and "made" have been held to reach physical products only, *see Bayer AG* v. *Housey Pharms., Inc.*, 340 F.3d 1367, 1377 (Fed. Cir. 2003), neither word appears in Section 271(f). And while Section 271(g) envisions that a "product . . . made" outside the United States might become a "trivial and nonessential component of another product," the fact that one physical "product" might become a "component" of another physical "product" under Section 271(g) does not remotely suggest that intangible object code cannot be a "component" of a "patented invention" for purposes of Section 271(f).

combined with other components. Congress nowhere suggested that Section 271(f) applies only to "components" that are independently useful or novel *before* their combination with other components. *Cf.* U.S. Br. 12 ("The nonpatentability of software code standing alone has no bearing . . . on whether software can be a component of a patented invention under Section 271(f)." (emphasis omitted)).

Microsoft similarly argues (Br. 11) that object code itself cannot be a "component" for Section 271(f) purposes on the theory that, if it lacks physical existence, it is not "capable of being 'combined' with other components" and, indeed, "cannot be combined with anything." *See also id.* at 42-44; *cf.* U.S. Br. 15. This is nonsense. In ordinary language, "combine" means "to cause (as two or more things or ideas) to mix together," as exemplified by such locutions as "*combining* the language of the gutter with ideas of undoubted worth" and "his talents and looks [*combined*] got him the job." *Webster's Third Int'l* 452 (definitions of "combine" and "combined"). It is perfectly natural to speak of combining intangible object code with physical components such as a hard drive or CD to make software technology work within a variety of computer systems. *See, e.g.*, Pressman, *supra*, at 124 (stating that the various elements of a computer-based system, including software and hardware, "combine in a variety of ways"); Autodesk Br. 7 (stating that "intangible" software code is "combined outside the United States").

Microsoft's contrary argument ignores not only the plain meaning of the text, but the basic structure of modern computer technology. As discussed in the Statement, *supra*, today's computer systems consist of conceptually distinct layers of technology, some tangible and some intangible. In a computer system, "hardware is the bottom layer, and software sits on top." E. Garrison Walters, *The Essential Guide to Computing* 135 (2001); *see also* Silberschatz, *supra*, at 60. Similarly, the public Internet consists not just of "physical layer" equipment in the form of wires and routers, but also (among other things) "a 'logical' or 'code' layer—the code that makes the hardware run," including the intangible

"protocols that define the Internet." L. Lessig, *The Future of Ideas: The Fate of the Commons in a Connected World* 23 (2002) (citing Y. Benkler, *From Consumers to Users: Shifting the Deeper Structures of Regulation*, 52 Fed. Communications L.J. 561, 562-563 (2000)). The Internet exists because engineers in various disciplines have succeeded in *combining* the technologies on these distinct layers into a single communications system.

The personal computer industry operates on the same basic principle. Computer manufacturers such as Dell or HP, and CD manufacturers such as Philips, make physical-layer devices for storing or transporting object code. These companies can modify or upgrade their technology's ability to handle any given sequence of 1s and 0s without having to worry about precisely *which* sequences of 1s and 0s their products will handle or for purposes of what application. Similarly, software developers such as Corel or Adobe may write computer programs without fretting the details of precisely how the 1s and 0s of the programs' object code will be expressed in the pits and lands of a given CD, in the magnetic storage devices of a given personal computer, or in the bursts of light in a given telecommunications carrier's fiber-optic transmissions. Such independence of the physical layer is possible because "[s]oftware is a *logical* rather than a *physical* system element." Pressman, *supra*, at 5 (emphasis added).[18]

Here, the use of AT&T's invention requires a combination of several different components. On the physical layer, it requires hardware, including a RAM chip and a CPU. On a non-physical level, it requires the use of intangible object code, which (once loaded into RAM) tells a computer's CPU

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[18] *See also* Silberschatz, *supra*, at 60 ("Each layer is implemented with only those operations provided by lower-level layers. A layer does not need to know how these operations are implemented; it needs to know only what these operations do. Hence, each layer hides the existence of certain data structures, operations, and hardware from higher-level layers.").

how to manipulate particular speech signals. Of course, the code component alone is not itself a "process, machine, manufacture, or composition of matter" and must therefore be combined with the physical-layer components before an inventor can obtain a patent. 35 U.S.C. § 101.[19] Nonetheless, code remains not only a component of that invention, but by far the most important component from an intellectual property perspective. Only when combined with object code can the foreign-made computers (often a collection of mostly commodity parts) become an invention that is "new and useful." *Id.*[20]

By analogy, the unique series of words that constitutes *Moby-Dick*, while intangible, retains its independent identity as such no matter how it is expressed as a physical matter—whether it appears in a paperback edition with a serif typeface, a hardcover edition with a sans serif typeface, or as the voice of a narrator on an audio CD. Likewise, the object code for a software program retains *its* distinct identity no

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[19] Sometimes a program's object code is further combined with other *intangible* components. For example, an encryption algorithm may be used to cloak the content of digital transmissions over the public Internet by changing some 1s to 0s and some 0s to 1s in a complex pattern that is known only to the sending and receiving parties. At the receiving end of the transmission, the cloak is removed by applying the same algorithm in reverse. *See, e.g.*, White, *supra*, at 394-395. Network engineers describe this technique as operating on a different layer from the application program and enclosing the underlying object code of the transmission in a sealed "envelope" that only the recipient can open. *E.g.*, R. Oppliger, *Security Technologies for the World Wide Web* 103-104 (2d ed. 2003); J. Mairs, *VPNs: A Beginner's Guide* 4-6, 9 (2002). As amici Intellectual Property Professors observe (Br. 5), encryption thereby renders the underlying code "useless gibberish" to third parties who lack the means to open the envelope. But encryption does not alter the fact that Microsoft "supplied" the Windows object code to foreign equipment manufacturers. That is why the object code successfully appeared in unencrypted form on millions of foreign computers—and why Microsoft collected a licensing fee each time.

[20] *See, e.g.*, *Eolas*, 399 F.3d at 1339 ("Without this aspect of the patented invention, the invention would not work at all and thus would not even qualify as new and 'useful.'").

matter how it is expressed at the physical layer. Just as the intangible words of *Moby-Dick* are properly described as a (particularly essential) component of any audio CD or printed book bearing that title, object code designed to implement AT&T's patented invention is a particularly essential component of that invention, no matter what physical medium is used to contain or carry it. The same is true of Microsoft's own analogy to the player piano (*see* Br. 21-22, 41): the intangible arrangement of musical notes in *The Star-Spangled Banner* is a component—indeed the critical component—of a player piano configured to play the national anthem, regardless of whether the arrangement is conveyed to the piano via a perforated roll or some other physical-layer technology, such as an IBM punch card, a machine-readable CD, or a hard drive.[21]

Citing *Pellegrini* v. *Analog Devices, Inc.*, 375 F.3d 1113, 1115 (Fed. Cir.), *cert. denied*, 543 U.S. 1003 (2004), Microsoft and its amici further claim that intangible object code cannot be a component of AT&T's invention because it "is design information, analogous to product specifications, or a recipe." Pet. Br. 38; *see also* U.S. Br. 14. This argument, too, is baseless.

In many contexts, a patented device and the instructions for building it are fully distinct, and it would make no sense to describe the latter as "components" of the former, because they are not present in the device. Step-by-step instructions for building integrated circuit chips (*cf. Pellegrini*, 375 F.3d at 1115) are not themselves part of the finished product, nor are cookbooks edible. *Cf.* Pet. Br. 43. But there is no such distinction between "instructions" and

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[21] Of course, no one could patent a book or audio CD of *Moby-Dick* or an old player-piano capable of playing *The Star-Spangled Banner*, nor are the underlying works even entitled to copyright protection in 2007. We cite these examples simply to demonstrate that, regardless of intellectual property protection, ordinary speakers of the English language are perfectly capable of identifying the separate tangible and intangible "components" of a larger system.

"product" in the software context, because the product is a machine that contains and continuously performs the "instructions" expressed in object code. Here, the patented invention is practiced by a computer containing a set of immensely complex instructions for encoding and decoding a potentially infinite variety of voice signals as they arise unpredictably in real time. The instructions prescribed by the object code—instructions to open and close circuits in ever-changing configurations depending on the input—are at all times present within the computer, whether in storage or RAM. *See Eolas*, 399 F. 3d at 1339 (software code is "incorporated as an operating element of the ultimate device"); *see also* Houston Intellectual Property Law Ass'n Br. 7 ("software is capable of becoming incorporated (*i.e.*, stored) within a patented product"); Yahoo! Br. 10 ("[i]nstallation makes the software a part of the computer"). It is thus entirely natural to describe such object code as a component of the resulting device.

II. MICROSOFT "SUPPLIED" INTANGIBLE OBJECT CODE FROM THE UNITED STATES FOR COMBINATION WITH OTHER COMPONENTS ABROAD

A. Microsoft's Arguments On The "Supply" Issue Presuppose The Validity Of Its Erroneous Argument On The "Component" Issue

Once the first question in the petition is answered by giving the term "component" its ordinary meaning, the second question presented is straightforward: Did Microsoft "suppl[y]" the intangible Windows object code to foreign computer manufacturers for "combination" with physical components into devices that, if made in the United States, would infringe AT&T's patent? There is no more natural way to describe what Microsoft has done. To "supply" means to "satisfy a need or desire for" or to "provide or furnish with." *Webster's Third Int'l* 2297 (citing, as an example of usage, "a youngster in school *supplied* me the answer"). Here, the Windows object code is present in the foreign-made computers only because Microsoft "provided" or "furnished"—in a word, *supplied*—it from the United States, via golden master disk or electronic transmission. Thus, if a

shareholder or reporter asked a Microsoft representative whether the company supplied the codec software that foreign Windows users have on their computers, he would answer yes, because that is precisely what Microsoft did. The same answer follows for purposes of interpreting the words of this statute.[22]

Microsoft's contrary arguments assume that the first question presented in the petition (and the last question addressed in Microsoft's brief) has been answered in Microsoft's favor: *i.e.*, that "component" means "*physical* component" (here, a master disk rather than the code it contains). The same is true of the Solicitor General, who claims: "The 'it' that petitioner supplied from the United States is not the same 'it' that is *physically* present in any of the foreign-made computers at issue, *i.e.*, is not a component within the meaning of the statute." U.S. Br. 19 (emphasis added). As Microsoft does throughout its analysis, the Solicitor General is here assuming that only physical things can be components of an invention. That assumption is wrong for the reasons discussed in Point I above.

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[22] The use of the term "supplies" in this context is so obviously appropriate that Microsoft itself conceded in the district court that, when it sends its Windows object code abroad via electronic transmission, it "*supplies* its Windows operating system object code from the United States to certain foreign OEMs." Pet. App. 46a ¶ 7 (emphasis added); *see also* U.S. Br. 4 (stating that Microsoft "provides the Windows object code to foreign computer manufacturers"). Microsoft has likewise referred to software companies as "supplier[s]" of software in other proceedings. *See United States* v. *Microsoft Corp.*, 253 F.3d 34, 75 (D.C. Cir. 2001) (quoting Microsoft's proposed findings of fact as stating that Symantec is "'the leading supplier of utilities such as anti-virus software'"); *see also American Trim, L.L.C.* v. *Oracle Corp.*, 383 F.3d 462, 466 (6th Cir. 2004) ("Oracle is a supplier of business software."); *Dresser-Rand Co.* v. *Virtual Automation, Inc.*, 361 F.3d 831, 837 (5th Cir. 2004) (referring to "the negotiation of *supply agreements* for the hardware and *software components* that were to make up the control system" (emphasis added)); *Specht* v. *Netscape Communs. Corp.*, 306 F.3d 17, 34 n.17 (2d Cir. 2002) (noting that the Uniform Computer Information Transactions Act provides guidelines for "'internet-type' transactions involving the supply of software"); Professor Edward Lee Br. 6.

Microsoft similarly obscures the issue by attempting to differentiate between the "copy" of the object code used in personal computers to practice AT&T's invention and the "copy" that Microsoft supplied from the United States. But the word "copy" appears nowhere in Section 271(f); instead, that provision asks only whether a U.S. company supplied a "component" from the United States. If the component is non-physical, as object code is, the term "copy" could have significance only in describing the different physical-layer media employed for storing, transporting, or using that component. There may be many such media, but the object-code component remains the same. Thus, a foreign purchaser of a personal computer recognizes that the Windows software inside is the *same* Microsoft program his neighbor uses; that it is a core *component* of his computer; and that it was created in and *supplied* from the United States.

Microsoft invokes the Copyright Act in a misguided effort to justify its focus on "copies" (Br. 19 n.4), but a simple comparison of the two statutes in fact undermines Microsoft's position. Congress *did* refer expressly to "copies" in the Copyright Act and defined them as "material objects" in which an intangible "work" is "fixed." 17 U.S.C. § 101. Had Congress wished to limit Section 271(f) to situations where the defendant supplied the same "material objects" that end up in an infringing device abroad, it would have used language to that effect. It is noteworthy that Microsoft and its allies lobbied Congress to take the functional equivalent of that step by specially limiting the term "component" in Section 271(f) to "a tangible item that is itself combined physically with other components to create the combination that is alleged to infringe." Subcomm. on Courts, the Internet, and Intellectual Property of the House Comm. on the Judiciary, *Committee Print: Patent Act of 2005*, § 10, at 49 (Apr. 14, 2005) (proposing new section 271(f)(3)). But if such a limitation were warranted as a policy matter, it should be imposed by Congress, not by this Court.

Microsoft also contends (Br. 42) that, before object code "can be 'supplied,' . . . it first must be reduced to some physi-

cal format," and that object code unencased in such a physical format "is not susceptible to transmission." That is true, but it does not support Microsoft's position. *Of course* Microsoft can supply object code to foreign manufacturers only if it first encases the code in a physical-layer container, but the object code itself remains the component supplied. The fact that this component can be moved seamlessly from one container (such as a master disk) to other containers (such as a magnetic surface on a computer hard drive or electrical charges on a RAM chip) merely illustrates the ease with which Microsoft supplies that component from the United States for combination with other components abroad "in a manner that would infringe [AT&T's] patent if such combination occurred within the United States." 35 U.S.C. § 271(f).

By analogy, suppose that a foreign publisher wishes to print and sell ten thousand copies of *Moby-Dick* in its home country. It can supply the ink, paper, and printing presses, but it lacks the most important component of the book: the complete and accurate sequence of Melville's words from the beginning of the novel to the end. It therefore contracts with an American company to convey that word sequence via an electronic transmission. The foreign company downloads the word sequence, chooses a typeface and page format, prints the book, and sells it to consumers. In ordinary speech, the American company has plainly "supplied," from the United States, the intangible text of *Moby-Dick* for combination with the physical components of the printed books, even though the physical format of *Moby-Dick* as it appears in the books is obviously different from the electronic format in which the American firm transmitted it abroad. Likewise, Microsoft has also "supplied," from the United States, intangible object code for combination with various physical components to produce devices abroad that, if manufactured here, would infringe AT&T's patent.[23]

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[23] As before, we cite this example simply to show how the terms "component" and "supply" are ordinarily used in analogous contexts, not

Microsoft claims (Br. 42) that "it is impossible to determine the location from which [software] is supplied" if that software is conceptualized as intangible object code rather than a physical medium containing that code. This is sophistry. Microsoft concedes that it "conceived, wrote, compiled, tested, and debugged Windows in the United States" (Microsoft Ct. App. Br. 4; *see also* U.S. Br. 4) and then shipped the Windows software abroad by combining it with a physical-layer medium in the United States. Indeed, Microsoft had no difficulty acknowledging the U.S. origin of Windows software installed on foreign-made computers when doing so allowed Microsoft to reap $31 million in tax deductions. Microsoft stipulated that its "software development in the United States" satisfied the "domestic production requirement" necessary for master disks containing Windows to be treated as deductible "export property" under 26 U.S.C. § 927(a)(2)(B) (repealed 2000). *Microsoft Corp.* v. *Commissioner*, 311 F.3d 1178, 1182 (9th Cir. 2002). Microsoft's tax deduction for "export property" applied not only to the physical disks exported from the United States, but to all "royalties that Microsoft earned" from licenses to foreign OEMs, including the "royalty for each copy of the [software] distributed in the market or for each computer system the OEMs sold." *Id.* at 1181.

There also can be no doubt that the intangible object code meets the other statutory criteria for liability under both paragraphs (1) and (2) of Section 271(f). Microsoft has never denied that, if object code itself is *a* component of AT&T's invention, it constitutes "a *substantial portion* of the components" of that invention for purposes of paragraph

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to demonstrate anything about how intellectual property law might treat this transmission of *Moby-Dick*, which has long been in the public domain. Although Microsoft notes (Br. 26 n.6) that software may be protected by copyright law, AT&T's invention consists of "new and useful" methods and products and is therefore protected from misappropriation only by patent law, not by copyright. *Microsoft* wrote the object code (which could be protected by copyright) that, when combined with physical computer components, infringed AT&T's patent.

(1). 35 U.S.C. § 271(f)(1) (emphasis added). That alone is enough to establish Section 271(f) liability because it is undisputed that, through its contracts with foreign equipment manufacturers, Microsoft "actively induce[d]" the installation of this object code in computers "outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." *Id.*

Microsoft is independently liable under paragraph (2) as well. The speech-codec object code included with the Windows operating system is "especially made or especially adapted for use in" AT&T's invention; it is "not a staple article or commodity of commerce suitable for substantial noninfringing use"; and Microsoft transmitted it abroad "knowing that such component is so made or adapted and intending that such component w[ould] be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(2). Microsoft contends that it cannot be liable under paragraph (2) because "*Windows* is not 'especially made or especially adapted for use'" in AT&T's invention. Pet. Br. 12 n.3 (emphasis added). This is untenable. The question is whether the portion of the Windows object code relevant to speech encoding and decoding, not Windows as a whole, is "especially made or especially adapted for use" in AT&T's invention. It indisputably is, because that portion of the code has no purpose other than the coding and decoding of speech signals.

Finally, it is difficult to discern what Microsoft hopes to gain by arguing that, if it is liable for violating Section 271(f), it is liable, "at most, for a single act of infringement for each master version shipped overseas." Pet. Br. 24. The lower courts held only that Microsoft was *liable* under Section 271(f), and that liability determination is the only question presented for this Court's review. Microsoft appears to be asking the Court to opine on the measure of the *damages* appropriate to compensate AT&T for that violation, but the lower courts never undertook to ascertain damages in this case, and no damages issue is before this Court. Indeed, the

parties have entered into a settlement agreement that prescribes fixed dollar outcomes depending on the course of appellate proceedings about the underlying question of liability. *See* Pet. 9, Pet. App. 42a-43a.

In any event, Microsoft cannot seriously complain about the fairness of making AT&T whole "for each of the tens of millions of foreign-produced copies" (Br. 24). Microsoft itself encouraged its foreign business partners to sell Windows to as many end users as possible, kept close track of how many times they did so, and charged them a royalty each time. It would hardly be unreasonable to take account of Microsoft's royalties in calculating its liability for its intentional infringement of AT&T's patent. *See* 35 U.S.C. § 284 (infringement creates right to "damages adequate to compensate for the infringement"); *General Motors Corp.* v. *Devex Corp.*, 461 U.S. 648, 654 (1983) (successful plaintiff is entitled to "full compensation for 'any damages' he suffered as a result of the infringement" (citation omitted)); *see also Deere & Co.* v. *International Harvester Co.*, 710 F.2d 1551, 1558-1559 (Fed. Cir. 1983); *cf.* Professor Edward Lee Br. 13 ("a court should be allowed to consider, when computing damages for profits lost by AT&T, the acts of copying by Microsoft's licensees that Microsoft's predicate act of infringement facilitated").[24]

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[24] Quite apart from all of the considerations discussed to this point, Microsoft would be liable under Section 271(f) even if, as Microsoft erroneously claims, it could infringe only by supplying a *physical* component abroad. Section 271(f) makes it an act of infringement to supply "components" abroad "in such manner as to actively induce the combination of *such components* outside of the United States." 35 U.S.C. § 271(f)(1) (emphasis added). Microsoft's position depends not just on its artificially narrow construction of "component," but also on the premise that "such," as used in this sentence, means "the same" down to the last molecule. *E.g.*, Pet. Br. 8, 14, 15, 18. But the word "such" cannot bear that weight. Even under the *narrowest* definition of that word—"aforementioned"—it denotes only substantial, not literal, identity between two things. One can satisfy instructions to "buy three eggs and combine such eggs with flour" even if one removes the shells in the process. Here, as with eggs, the essence of software is not the shell it comes in, but the contents, which

B. Microsoft's Invocations Of Legislative History Are Unavailing

As discussed, the ordinary meaning of the statutory text answers both questions in this case. Microsoft nonetheless argues that Section 271(f) should be construed narrowly in light of its "legislative history." Pet. Br. 36 n.10; *see also* U.S. Br. 17. Congress, it says, enacted Section 271(f) only because it "was concerned with the specific facts of *Deepsouth*" (Pet. Br. 36 n.10), where a defendant avoided patent liability even though it had supplied all of the physical "components" of a shrimp deveining machine for assembly abroad. But while *Deepsouth* was indeed the catalyst for the enactment of Section 271(f), "statutory prohibitions often go beyond the principal evil to cover reasonably comparable evils, and it is ultimately the provisions of our laws rather than the principal concerns of our legislators by which we are governed." *Oncale* v. *Sundowner Offshore Servs., Inc.*, 523 U.S. 75, 79 (1998). As noted, software was well-established as a basis for patentable inventions when Congress enacted Section 271(f) in 1984. *See supra* pp. 22-23 & n.16. If Congress had meant to restrict the scope of Section 271(f) to physical components like those at issue in *Deepsouth*, thereby denying meaningful protection to any invention that could be practiced by the use of software, it would have said so in the provision's text.

Indeed, Section 271(f) indisputably creates patent liability for a range of conduct beyond the type of activity addressed in *Deepsouth*. In that case, the defendant supplied *all* of the components of the patented shrimp deveining machine for combination abroad. *See Deepsouth*, 406 U.S. at 524. But a defendant can be liable under Section 271(f)(1) for supplying only "a substantial portion" of the components of a patented invention. A defendant can also be liable under Section 271(f)(2) for supplying a *single* "component" of that invention if (as in this case) the component is especially

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clearly are transferred onto (and thus "combined with") the foreign-made computers.

made for use in the invention, and liability attaches even if that one component is never actually combined abroad, so long as the defendant *intends* that such a combination take place. *See Waymark Corp.* v. *Porta Sys. Corp.*, 245 F.3d 1364, 1367-1368 (Fed. Cir. 2001). Because Section 271(f) thus extends far beyond the facts of *Deepsouth*, that case cannot provide a basis for carving arbitrary exceptions out of the statutory language.

III. MICROSOFT IDENTIFIES NO POLICY BASIS FOR DISREGARDING THE PLAIN MEANING OF THE STATUTORY TEXT

A. Far From Vindicating The "Technology-Neutral" Purposes Of Section 271(f), Microsoft's Position Would Repeal That Provision For Software Components

Microsoft and its supporters argue that the court of appeals' holding offends the "technology-neutral" (U.S. Br. 25) objectives of the statutory scheme by precluding software companies from conducting research and development activities in the United States while exploiting the fruits of those activities abroad through foreign manufacturing operations. In fact, principles of technological neutrality cut against Microsoft here, because it is Microsoft's position that would single out software for special treatment by arbitrarily exempting it from the scope of Section 271(f).

As an initial matter, the court of appeals' holding does not preclude software designers from conducting research and development in the United States as one step towards manufacturing abroad a product that would violate U.S. patents if manufactured here. For example, nothing in the court of appeals' decision precludes a company in Microsoft's position from providing foreign companies with technical specifications—the software equivalent of blueprints—for particular types of software programs.[25] What Microsoft

[25] Once the "requirements" of a desired program—*i.e.*, what the program should do—have been established, software engineers create technical specifications (often called the "design"), the purpose of which is "to create a model of software that will implement all customer requirements

may *not* do is what it did here: supply the actual object code that will itself be combined with hardware to create devices that would infringe patents if manufactured in the United States. The Solicitor General contends that it would "upset the balance struck by Congress" to encourage software companies like Microsoft, which balk at paying royalties to inventors, to "sell[] incomplete work product" abroad in the form of design specifications rather than ready-to-install object code. U.S. Br. 26. But permitting such companies to free-ride on others' inventions by selling *complete* work product for the most critical component in those inventions—finished object code—would strike no balance at all: it would repeal Section 271(f) for the software industry.

Indeed, a repeal is precisely what Microsoft and its allies seek. First, they are actively lobbying for legislation that, in its most aggressive form, would eliminate Section 271(f) outright. *See* Patent Reform Act of 2006, S. 3818, 109th Cong. § 5(f) (2006); Eli Lilly Br. 14-15 (stating that Microsoft's coalition is pursuing "sweeping changes to U.S. patent law," including a repeal of Section 271(f)). Second, as a hedge, they have asked this Court to issue the functional equivalent of a repeal for the software industry in this case.

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correctly." Pressman, *supra*, at 250. Design specifications are not themselves software, but rather representations of the software's structure: "the preliminary blueprint from which software is constructed," *id.* at 254. Completion of the design specification "sets the stage for construction," which is the actual generation of source code. *Id.* at 227; *see also id.* at 321 (stating that the later phase of software design, called "component-level design," represents the program "in sufficient detail to guide in the generation of programming language source code"). Once generated, the source code must be compiled into machine-executable object code and actually run on a computer for testing and "debugging" (removal of errors identified during testing). *See Computer Assocs. Int'l, Inc.* v. *Altai, Inc.*, 982 F.2d 693, 698 (2d Cir. 1992). As the court of appeals correctly held, this case does not involve the transmission overseas of software "designs" or specifications that would instruct foreign engineers on how to code Windows themselves. *See* Pet. App. 8a. Rather, Microsoft shipped the final software component—the program's object code—for incorporation into foreign-made computers.

On this the Court should make no mistake: the consequence of Microsoft's position is that, with few if any exceptions, no software "component" could ever be "supplied" from the United States in a manner that would trigger Section 271(f).

As Microsoft acknowledges (albeit in a footnote), *every* provision of object code to an end user necessarily involves transferring that code from one physical-layer container to another. *See* Pet. Br. 4 n.2 (conceding that "the 'installation' process itself involves an act of duplication"). If Microsoft were correct that only the physical medium containing the object code qualifies as a component "supplied" from the United States—such that the "supply" of object code is interrupted whenever the code is transferred to a new physical medium—the installation process would almost always generate a new "copy" that (under Microsoft's theory) is not "supplied" from the United States. Microsoft could avoid liability even if it directly mailed each individual foreign customer a CD containing all of the relevant object code, because each customer would normally install the object code onto a hard drive and, in the process, transfer the object code from one physical medium (the pits and lands of a portable CD) to another (the magnetic surface on hard drives).

In the district court, Microsoft tried to avoid that conclusion by "acknowledg[ing] that if individual disks with the infringing Windows object code were sent abroad for installation into each foreign-assembled computer (rather than one golden master disk), Microsoft would be liable for infringement under Section 271(f)." Pet. App. 36a n.7; J.A. 26. And the Solicitor General makes the same assertion even now (Br. 25 n.2). But these attempts to seem moderate run headlong into Microsoft's own core legal rationale, which is that every act of "copying" ("installation") outside the United States creates a new software component that was not "supplied" from the United States. That is presumably why Microsoft has now retreated from any suggestion that it would be liable if it had sent millions of CDs containing the object code needed to practice AT&T's invention to millions

of foreign end users for downloading onto their individual hard drives.[26]

Microsoft nonetheless claims that Section 271(f) "might" preclude a company in its position from shipping "software-encoded disks" to foreign manufacturers for physical incorporation into individual computers (Pet. Br. 28), but only in the atypical case (such as certain "video game systems") where the end user must "run the computer program directly from the U.S.-supplied disk" rather than downloading it onto the computer's hard drive (*id.* at 37 n.11). Even on its own terms, this effort to preserve relevance for Section 271(f) in the software industry has vanishingly narrow significance. End users typically download programs from a disk onto a hard drive before running them, and Microsoft (and similar companies) could easily ensure that end users follow that step for all programs if that were all that is needed to avoid liability under Section 271(f).

In addition, under the logic of Microsoft's argument, a company in Microsoft's position would not "supply" foreign end users with the same "copy" of the object code actually employed to practice AT&T's invention even if Microsoft sent all of those end users the *hard drives themselves*, fully equipped with the code. That is because, before a computer can perform the operations of a software program, it must call up the object code from a storage medium (such as a hard drive or CD) and incorporate it into arrangements of

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[26] The Solicitor General, on the other hand, continues to argue that if Microsoft had "sent copies of its Windows software from the United States to a foreign country and those copies were loaded onto computers, [it] would likely be liable under Section 271(f) for each such infringing copy." U.S. Br. 25 n.2. Again, however, "loading" software from a CD onto a computer's hard drive inevitably requires converting code from its physical manifestation as pits and lands on the CD into a new physical manifestation as magnetic properties on the hard drive (*cf. id.* at 15). The Solicitor General offers no principled reason for treating the different physical manifestations of object code on a *CD* and a hard drive as the same component while treating the different physical manifestations of object code on the *master disk* and a hard drive as different components.

electrical charges in its RAM.[27] Only once the code is so embodied in the RAM circuitry can the computer's central processor perform the program's functions (here, speech encoding and decoding operations). On Microsoft's theory, the "copy" of the Windows object code embodied in the computer's RAM would be different from the "copy" physically embodied in the storage medium. For that matter, even the electric charges in the RAM circuitry discharge over time and must be "refreshed"—by adding new electrons that are different from those previously discharged—"thousands of times per second."[28]

One way or another, Microsoft's legal rationale would allow it to claim that, no matter how it distributes software abroad, it never "supplies" the *same* software component that foreign customers actually use to practice AT&T's invention—even though there is obviously no other way for this staggeringly complex compilation of object code to end up in the RAM of millions of foreign customers' computers. Microsoft's angels-on-a-pin metaphysics is reminiscent of the claim attributed to Heraclitus that "you would not step twice into the same river" because other waters are continually flowing in.[29] But ordinary speakers of the English language find it perfectly natural to say that Huck and Jim

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[27] *See* Walters, *supra*, at 41 ("Programs that are executing—actually in use—are loaded into [RAM] because the silicon chips that comprise [RAM] can read and store data much faster than can the other principal kind of storage, hard disks."); Jeff Tyson, *How Computer Memory Works*, *at* http://computer.howstuffworks.com/computer-memory.htm (visited Jan. 23, 2007).

[28] Jeff Tyson & Dave Coustan, *How RAM Works*, *at* http://computer.howstuffworks.com/ram.htm (visited Jan. 23, 2007); *see also* White, *supra*, at 49. Under Microsoft's position, therefore, the functional software "component" is never the same from one moment to the next *even while it is being used*. *See, e.g., Apple Computer, Inc.* v. *Formula Int'l, Inc.*, 594 F. Supp. 617, 622 (C.D. Cal. 1984) ("It is a property of RAM that when the computer is turned off, the copy of the programs recorded in RAM is lost."); White, *supra*, at 49.

[29] Plato, *Cratylus* 402a, *quoted in* G.S. Kirk & J.E. Raven, *The Presocratic Philosophers* 197 n.218 (1971).

rafted on the same Mississippi River on successive days, despite the differences in water molecules. So, too, do ordinary speakers find it perfectly natural to say that Microsoft "supplied" the Windows object code to its foreign customers abroad, and that the foreign customers sold computers that run "Microsoft Windows" software made in the United States, not "Sony Windows" made in Japan or "Siemens Windows" made in Germany.

In sum, Microsoft's position would treat the software industry differently from all other industries by precluding any meaningful application—indeed, any application at all—of Section 271(f) to the supply of software components abroad. It is Microsoft and its allies, not the court of appeals, that would thereby thwart principles of "technological neutrality." And there is absolutely no indication that Congress meant to treat software any differently from any other components of patented inventions, much less that it intended to fence software off from the protections of Section 271(f) entirely.

B. The Presumption Against Extraterritoriality Is Inapplicable

In another effort to escape the statutory text, Microsoft relies heavily on the judicial "presumption against the extraterritorial application of U.S. law" (Pet. Br. 30). That reliance is misplaced for multiple independent reasons.

First, the presumption is simply inapplicable because Microsoft is liable under Section 271(f) not for "extraterritorial" conduct, but for conduct performed domestically: shipping its U.S.-developed, U.S.-tested Windows software from the United States. Section 271(f)(2) makes this point abundantly clear. Because that provision predicates liability on the "inten[t]" of a U.S. firm in shipping a "component" abroad, Microsoft is liable no matter what actually happened abroad and, in particular, *whether or not* foreign manufacturers ultimately combined that component into devices that would infringe AT&T's patent if made in the United States. *See Waymark Corp.*, 245 F.3d at 1367-1368. As noted, the proper assessment of *damages* may well turn on the extent

to which Microsoft "actively induce[d]," 35 U.S.C. § 271(f)(1), or "intend[ed]," *id.* § 271(f)(2), the proliferation of infringing devices abroad. But even proof on that damages issue would require no foreign discovery, since Microsoft kept track of its foreign partners' activities and charged them royalties that it entered into its books in the United States. Holding Microsoft liable under that provision no more entails the "extraterritorial" application of the patent law than would holding a criminal defendant liable under U.S. law for mailing an explosive device from the United States with the intent to harm a target abroad. *See* 18 U.S.C. § 1716(j)(2).

Second, even if Microsoft's activity in this case *had* an extraterritorial dimension, the "presumption" would be inapplicable because, where it applies at all, it operates only to break interpretive ties when a statute is ambiguous as to its geographic scope. *See, e.g., EEOC* v. *Arabian Am. Oil Co.*, 499 U.S. 244, 248 (1991) (stating that the presumption against extraterritoriality applies when ascertaining "'unexpressed congressional intent'" (quoting *Foley Bros., Inc.* v. *Filardo*, 336 U.S. 281, 285 (1949)). Because, for the reasons discussed in Points I and II above, the text of Section 271(f) speaks directly to the questions presented here, there is no ambiguity for any "presumption" to resolve.

Third, it would be especially perverse to apply the presumption against extraterritorial application to a statutory provision that, like this one, Congress enacted for the purpose of *overcoming* the application of that very presumption. Congress passed Section 271(f) precisely to counteract the *Deepsouth* Court's reliance on the presumption against extraterritoriality to foreclose the type of liability that Section 271(f) creates.[30] Thus, the premise of Section 271(f) is that,

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[30] *See Deepsouth*, 406 U.S. at 531. Nothing in the reasoning of *Deepsouth* supports Microsoft's claim that applying Section 271(f) in these circumstances would involve an "extraterritorial" application of U.S. law (and it would not, for the reasons discussed in the text). In *Deepsouth*, because Section 271(f) had not yet been enacted, the U.S. company could face no liability for infringing a combination patent unless Section 271(a) had genuinely extraterritorial application, in the sense that a foreign com-

in the circumstances defined by that provision's plain language, U.S. patentees should *not* have to rely exclusively on foreign patent protections, which would require the patentee to assume prohibitive costs to prosecute and enforce patents in scores of foreign jurisdictions, all simply to address *domestic* activity by U.S. companies like Microsoft that supply components of the patented invention from the United States. Given that backdrop, applying a judge-made "presumption" to reweigh the policy balance that Congress struck when writing the language of Section 271(f) would hardly give effect to any presumed congressional intent; instead, it would usurp Congress's role.[31]

The Solicitor General's contrary argument (*see* U.S. Br. 28) relies on two cases that do not begin to support it. The Solicitor General's reliance on *Smith* v. *United States*, 507 U.S. 197 (1993) (U.S. Br. 28), is particularly baffling, since the statute in that case—the Federal Tort Claims Act—expressly *foreclosed* any extraterritorial application. *Id.* at 201 ("[T]he FTCA's waiver of sovereign immunity does not apply to '[a]ny claim arising in a foreign country.'" (quoting 28 U.S.C. § 2680(k))). Thus, this Court held that the presumption against extraterritoriality was "doubly fortified by the language of this statute." *Id.* at 204 (quoting *United States* v. *Spelar*, 338 U.S. 217, 222 (1949)). The exact opposite is true of Section 271(f): it was enacted to *reverse* this Court's reliance on the presumption against extraterritoriality in *Deepsouth*. *See* 406 U.S. at 531.

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pany could violate U.S. patent laws (or a U.S. company could "induce" such a violation under Section 271(b)) through assembly of an infringing device abroad. The Court rightly noted that Congress had not revealed an intention to create liability in those circumstances.

[31] In claiming that U.S. patent law is "territorially limited," Microsoft tellingly relies entirely on statements that *predate* the enactment of Section 271(f). *See* Pet. Br. 31 (citing *Dowagiac Mfg. Co.* v. *Minnesota Moline Plow Co.*, 235 U.S. 641 (1915); *Brown* v. *Duchesne*, 60 U.S. (19 How.) 183 (1857)); *see also* U.S. Br. 27 (same).

F. Hoffmann-La Roche Ltd. v. *Empagran S.A.*, 542 U.S. 155 (2004), is likewise inapposite. Far from adopting a generalized presumption against the extraterritorial application of U.S. law, the Court there noted only that "it ordinarily construes *ambiguous* statutes to avoid *unreasonable* interference with the sovereign authority of other nations." *Id.* at 164 (emphasis added). It thus rejected an interpretation of U.S. law that would have vested "worldwide subject matter jurisdiction" in the U.S. courts for "any foreign suitor wishing to sue its own local [foreign] supplier" for foreign injuries, "provided that a different plaintiff had a cause of action against a different firm for injuries that were within U.S. . . . commerce." *Id.* at 166 (internal quotation marks omitted). Congress, the Court held, could not have intended that bizarre result: "Why should American law supplant, for example, Canada's or Great Britain's or Japan's own determination about how best to protect Canadian or British or Japanese customers from anticompetitive conduct engaged in significant part by Canadian or British or Japanese or other foreign companies? . . . . We can find no good answer to the question." *Id.* at 165-166. Here, in contrast, it would hardly be "unreasonable" to apply Section 271(f) in this suit brought by one U.S. company against another U.S. company for actions taken within the United States.

Fourth, applying any presumption against extraterritoriality would be particularly pointless from a policy perspective, because Microsoft cites no respect in which the application of Section 271(f) would actually conflict with any foreign nation's sovereign prerogative. As Microsoft acknowledges (Br. 30), the presumption against extraterritoriality "serves to protect against unintended clashes between our laws and those of other nations which could result in international discord." *Arabian Am. Oil*, 499 U.S. at 248. Neither in this Court nor below has Microsoft identified any law of any foreign nation that poses any conflict with the application of Section 271(f) here. Certainly no foreign law *requires* Microsoft to infringe AT&T's patent by shipping Windows object code from the United States to foreign computer manufacturers without paying AT&T a reasonable royalty for ex-

ploiting its invention.[32] It is also noteworthy that no foreign government has submitted any objection to the application of Section 271(f) in this case, whereas several foreign governments *did* file amicus briefs in *Empagran* urging the result the Court ultimately reached. *See* 542 U.S. at 167-168. And the Solicitor General, who represents the Executive Branch before this Court, nowhere suggests that this case implicates the United States' obligations under international law or the President's authority over foreign relations.[33]

The mere fact that countries have different patent-law regimes does not create a conflict between those patent re-

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[32] *See Hartford Fire Ins. Co.* v. *California*, 509 U.S. 764, 799 (1993) ("Since [petitioners] do not argue that British law requires them to act in some fashion prohibited by the law of the United States, . . . or claim that their compliance with the laws of both countries is otherwise impossible, we see no conflict with British law."); *cf. Steele* v. *Bulova Watch Co.*, 344 U.S. 280, 285-286 (1952) ("[T]he United States is not debarred by any rule of international law from governing the conduct of its own citizens . . . in foreign countries when the rights of other nations or their nationals are not infringed." (internal quotation marks omitted)). The facts of *Steele* are instructive. This Court there held that a U.S. district court could hear a Lanham Act claim against a trademark infringer whose infringing products were sold only in Mexico—a situation that certainly raises greater extraterritoriality concerns than holding Microsoft liable for the U.S.-based development, testing, debugging, and shipping of software. The Court even contemplated the possibility of a U.S. court enjoining the U.S. defendant "to cease or perform acts" occurring entirely in Mexico, so long as there was "no conflict which might afford [the party] a pretext that such relief would impugn foreign law." *Steele*, 344 U.S. at 289. In so holding, the Court rejected the dissent's view—echoed by Microsoft here—that an unspecified and unsubstantiated risk of "conflict with the laws and practices of other nations" warranted exempting U.S. parties from the reach of a U.S. statute. *Id.* at 258-259 (Reed, J., dissenting).

[33] If anything, faithful enforcement of Section 271(f) comports with the international goal of fighting cross-border piracy by ensuring that countries maintain "expeditious remedies to prevent infringements and remedies which constitute a deterrent to further infringements." Agreement on Trade-Related Aspects of Intellectual Property Rights, Including Trade in Counterfeit Goods, Apr. 15, 1994, art. 41(1), *in* Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 33 I.L.M. 1197, 1213-1214 (1994).

gimes and Section 271(f). Section 271(f) merely defines a category of U.S.-based behavior as infringing of U.S. patents; it does not purport to give any individual a monopoly over the making of any invention in a foreign country. Nor has AT&T ever contended, contrary to Microsoft's implication, that it was an "act of infringement" to "assemble devices overseas" (Pet. Br. 33). The foreign computer manufacturers that combined the Windows object code into their foreign-made computers have nothing to fear from the U.S. patent law, provided that the resulting devices are not "import[ed] into the United States" (35 U.S.C. § 271(a)). And Microsoft cites no basis for concern that any foreign court would hold *it* liable for the same conduct underlying Microsoft's Section 271(f) violation (much less deny Microsoft the ordinary right of any defendant to offset damages in a prior case from damages assessed in a subsequent case). Microsoft's claim of "overlapping and duplicative liability" (Pet. Br. 31 n.8) is therefore neither substantiated nor realistic.

Finally, there is no merit to Microsoft's related policy argument that, to vindicate their rights abroad, patent-holders in AT&T's position should simply rely on patent protections under foreign law rather than on U.S. patent law. Again, Congress enacted Section 271(f) because it understood that foreign patent protections are sometimes weaker than their U.S. counterparts, and because it wished to spare U.S. patent-holders from the considerable expense of obtaining patent protections in dozens of foreign jurisdictions. Microsoft's policy argument could be made whenever Section 271(f) is invoked, because that provision necessarily entitles U.S. patent-holders to seek redress for U.S.-based actions as an alternative to seeking redress for foreign acts under foreign patent-law protections. The argument thus quarrels not so much with the application of Section 271(f) in this case as with Congress's decision to enact it in the first place.[34]

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[34] Judge Learned Hand, faced with the question whether a copyright infringer was liable for the shipping of film negatives abroad from which a copyrighted film could be reproduced, noted that it was irrelevant

C. Microsoft's "Outsourcing" Arguments Are Without Merit

Microsoft and its supporters argue (*e.g.*, Pet. 20; U.S. Br. 26; Business Software Alliance Br. 10, 12; Intel Br. 19) that the Court should limit the scope of Section 271(f) on the theory that construing it as the court of appeals did would lead companies in Microsoft's position to relocate their operations abroad. But even if policy arguments could trump the plain meaning of statutory text, which they cannot, *this* policy argument is unpersuasive on the merits.

As an initial matter, arguments about supposed "outsourcing" incentives, like Microsoft's other policy-based arguments, take issue less with the court of appeals' decision than with Congress's threshold decision to enact Section 271(f). No matter how it is interpreted, that provision has always presented the hypothetical risk that "component" suppliers will move their operations offshore. *See* D. Chisum, *Normative and Empirical Territoriality in Intellectual Property: Lessons from Patent Law*, 37 Va. J. Int'l L. 603, 607 (1997) (calling for repeal of Section 271(f)). Congress nonetheless decided to protect U.S. patentees from unfair competition by U.S. "component" suppliers. To the extent that faithful application of Section 271(f) may someday have undesirable economic consequences, Congress is more than capable of fine-tuning it to strike a different balance between inventors and those who wish to free-ride on others' innovations. While Congress has considered such fine-tuning, it has not changed the law yet.[35]

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whether the copyright holder would be entitled to recover under foreign law. *See Sheldon* v. *Metro-Goldwyn Pictures Corp.*, 106 F.2d 45, 52 (2d Cir. 1939), *aff'd*, 309 U.S. 390 (1940). Although *Sheldon* arose under the copyright law, not the patent law, it supports the court of appeals' conclusion here that the consequences under U.S. law for the U.S.-based actions of U.S. companies do not turn on foreign law. Pet. App. 6a n.2.

[35] Microsoft's argument on this point also ignores the undisputed ability of any U.S. company, under any interpretation of Section 271(f), to supply work product (such as technical specifications) from earlier stages of the software-development process. *See supra* p. 36 & n.25.

Microsoft's policy argument also focuses narrowly on the welfare of U.S.-based *component* suppliers, a myopic perspective that—though favorable to Microsoft and its allies—slights the fuller set of policy interests Congress sought to accommodate by enacting this statute. Section 271(f) encourages greater innovation in the U.S. by ensuring effective intellectual property protection for inventors, and all software developers (including Microsoft) benefit from that protection. As one senior U.S. executive explained:

> The software industry could achieve cost savings by moving its development and production facilities overseas, but it has chosen to remain in the United States and has flourished here, in no small part because the copyright, trade secret and judicial processes in the United States provide[] strong and effective protection for the intellectual property content of software products. There is no justification for letting them enjoy the benefit of our strong IP system for their own products while, at the same time, they are allowed to avoid exposure to other companies' patents when those same products are exported.[36]

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[36] *Committee Print Regarding Patent Quality Improvement: Hearing Before the Subcomm. on Courts, the Internet, and Intellectual Property of the House Comm. on the Judiciary*, 109th Cong., 1st Sess. 202 (2005) (statement of Jack Haken, Vice President, Intellectual Property & Standards, U.S. Philips Corporation). *Amicus* Business Software Alliance acknowledges (Br. 9) that "[s]oftware and computer companies based in the United States rely on the strength of United States [patent] law" to protect their own discoveries, yet claims (Br. 10) that Section 271(f) disadvantages U.S. software companies compared to foreign companies. But there is no disparity in treatment; a foreign company can no more use the U.S. market to develop "components" of a U.S.-patented invention for combination abroad than can a U.S. company. And U.S. companies may set up manufacturing facilities in other countries just as foreign companies do, provided that they do not ship "components" of U.S.-patented inventions for combination with other components—or, if they do, that they license the technology from the patentee, like any other U.S. company seeking to exploit a U.S. patent.

The lower courts' approach also removes the artificial incentives that Microsoft's position would give to *end-product* manufacturers (in this particular case, computer manufacturers) to locate their operations offshore in order to exploit Microsoft's proposed software exception to Section 271(f). Under Microsoft's position, any manufacturer that depends on U.S.-developed software gains substantial savings (*i.e.*, avoidance of patent royalties) by locating its manufacturing facilities abroad. A proper construction of Section 271(f) levels the playing field among jurisdictions by ensuring that patent-related costs will be the same wherever the manufacture occurs. *See* 130 Cong. Rec. 28,069 (1984), *reprinted in* 1984 U.S.C.C.A.N. 5827 (stating that Section 271(f) was enacted "to avoid encouraging manufacturing outside the United States").[37] As a result, U.S. business leaders who oppose a repeal of Section 271(f) "passionately argue that Section 271(f) protects [certain] kinds of jobs (such as assembly jobs) from foreign outsourcing." *Amendment in the Nature of a Substitute to H.R. 2795, the "Patent Act of 2005": Hearing Before the Subcomm. on Courts, the Internet, and Intellectual Property of the House Comm. on the Judiciary*, 109th Cong., 1st Sess. 68 (2005) (statement of Phil Johnson, Chief Patent Counsel, Johnson & Johnson).

There is therefore "a sharp difference of opinion within the IP stakeholder community as to whether, in the future, Section 271(f) will result in a net increase or decrease in U.S. jobs." *Id.* More generally, there is no consensus about the net effect of Section 271(f) on U.S. economic interests. The responsibility for resolving that empirical controversy rests with Congress, not this Court.

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[37] The Solicitor General incorrectly asserts (Br. 27 n.3) that this statement applied only to a "different provision" of the same bill. Congress was clear that the bill contained "*two major changes* in the patent law to avoid encouraging manufacturing outside the United States," the "second" of which was Section 271(f). 130 Cong. Rec. 28,069, *reprinted in* 1984 U.S.C.C.A.N. 5827-5828 (emphasis added); *see also Bayer AG* v. *Housey Pharms., Inc.*, 340 F.3d 1367, 1374 (Fed. Cir. 2003).

CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted.

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